

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. - 76. (cancelled)

77. (new) A thermal insulation material, wherein the thermal insulation material comprises an inorganic, porous matrix having additional pores therein and is based on a composition which comprises (a) a sol comprising at least one of nanoparticles, polycondensates and precursors thereof as a binder and (b) one or more solid pore formers giving rise to the additional pores, and wherein the matrix has a softening point above 1200°C.

78. (new) The insulation material of claim 77, wherein the insulation material has a softening point above 1300°C.

79. (new) The insulation material of claim 77, wherein the insulation material has a softening point above 1400°C.

80. (new) The insulation material of claim 77, wherein an average diameter of the additional pores is greater than an average diameter of pores of the porous matrix.

81. (new) The insulation material of claim 80, wherein the average pore diameter of the additional pores is at least 3 times larger than the average diameter of the pores of the porous matrix.

82. (new) The insulation material of claim 77, wherein the porous matrix comprises at least one of micropores and mesopores.

83. (new) The insulation material of claim 81, wherein the average diameter of the pores of the porous matrix is below 200 nm.

84. (new) The insulation material of claim 83, wherein the average diameter of the pores of the porous matrix is below 2 nm.

85. (new) The insulation material of claim 83, wherein the average diameter of the additional pores is at least 300 nm.

86. (new) The insulation material of claim 77, wherein the insulation material comprises at least 10 % by volume of pores (matrix pores + additional pores), based on a total volume of the insulation material.

87. (new) The insulation material of claim 77, wherein the composition further comprises organic compounds or organic groups which can be burned out to produce the inorganic matrix.

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88. (new) The insulation material of claim 77, wherein the composition further comprises at least one of a hydrolysis product and a condensation product of one or more hydrolyzable compounds of glass- or ceramic-forming metals as polycondensate or precursor thereof.

89. (new) The insulation material of claim 88, wherein at least one of the one or more hydrolyzable compounds is selected from compounds of Si, Al, B, Sn, Ti, Zr, Mg, V and Zn.

90. (new) The insulation material of claim 77, wherein the composition comprises at least one refractory component.

91. (new) The insulation material of claim 77, wherein the one or more solid pore formers comprise hollow particles.

92. (new) The insulation material of claim 91, wherein the hollow particles comprise glass or a plastic material.

93. (new) The insulation material of claim 77, wherein the one or more solid pore formers comprise particles which comprise at least one of a thermally decomposable and a vaporizable material.

94. (new) The insulation material of claim 77, wherein the composition further comprises at

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least one of an organic monomer, oligomer or polymer as additive for controlling at least one of a viscosity and a binding strength of a molding.

95. (new) The insulation material of claim 77, wherein the matrix comprises at least one of mullite and zirconium silicate.

96. (new) The insulation material of claim 77, wherein the material is in a form of a molding.

97. (new) The insulation material of claim 77, wherein the material is present as a coating on a substrate.

98. (new) A thermal insulation material, wherein the thermal insulation material comprises an inorganic, porous matrix having additional pores therein and is based on a composition which comprises (a) a sol comprising at least one of nanoparticles, polycondensates and precursors thereof as a binder and (b) one or more solid pore formers giving rise to the additional pores, and wherein the matrix comprises at least one of mullite and zirconium silicate.

99. (new) The insulation material of claim 98, wherein an average diameter of the additional pores is at least 3 times larger than an average diameter of pores of the porous matrix.

100. (new) The insulation material of claim 99, wherein the average diameter of the pores of the

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porous matrix is below 200 nm.

101. (new) The insulation material of claim 99, wherein the average diameter of the additional pores is at least 300 nm.

102. (new) The insulation material of claim 98, wherein the insulation material comprises at least 10 % by volume of pores (matrix pores + additional pores), based on a total volume of the insulation material.

103. (new) The insulation material of claim 98, wherein the composition further comprises organic compounds or organic groups which can be burned out to produce the inorganic matrix.

104. (new) The insulation material of claim 98, wherein the one or more solid pore formers comprise hollow particles.

105. (new) The insulation material of claim 104, wherein the hollow particles comprise glass or a plastic material.

106. (new) The insulation material of claim 98, wherein the one or more solid pore formers comprise particles which comprise at least one of a thermally decomposable and a vaporizable material.

107. (new) The insulation material of claim 98, wherein the composition further comprises at least one of an organic monomer, oligomer or polymer as additive for controlling at least one of a viscosity and a binding strength of a molding.

108. (new) The insulation material of claim 98, wherein the material is in a form of a molding.

109. (new) A thermal insulation material, wherein the thermal insulation material is present in a form of a molding and comprises an inorganic, porous matrix having additional pores therein and wherein the insulation material is based on a composition which comprises (a) a sol comprising at least one of nanoparticles, polycondensates and precursors thereof as a binder and (b) one or more solid pore formers giving rise to the additional pores.

110. (new) The insulation material of claim 109, wherein the insulation material has a softening point above 1200°C.

111. (new) The insulation material of claim 109, wherein an average diameter of the additional pores is at least 3 times larger than an average diameter of pores of the porous matrix.

112. (new) The insulation material of claim 111, wherein the average diameter of the pores of the porous matrix is below 200 nm.

113. (new) The insulation material of claim 111, wherein the average diameter of the additional pores is at least 300 nm.

114. (new) The insulation material of claim 109, wherein the insulation material comprises at least 10 % by volume of pores (matrix pores + additional pores), based on a total volume of the insulation material.

115. (new) The insulation material of claim 109, wherein the composition further comprises organic compounds or organic groups which can be burned out to produce the inorganic matrix.

116. (new) The insulation material of claim 109, wherein the composition further comprises at least one of a hydrolysis product and a condensation product of one or more hydrolyzable compounds of glass- or ceramic-forming metals as polycondensate or precursor thereof.

117. (new) The insulation material of claim 109, wherein the composition comprises at least one refractory component.

118. (new) The insulation material of claim 109, wherein the one or more solid pore formers comprise hollow particles.

119. (new) The insulation material of claim 118, wherein the hollow particles comprise glass or a

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plastic material.

120. (new) The insulation material of claim 109, wherein the composition further comprises at least one of an organic monomer, oligomer or polymer as additive for controlling at least one of a viscosity and a binding strength of a molding.

121. (new) A thermal insulation material, wherein the thermal insulation material comprises an inorganic, porous matrix having additional pores therein and is based on a composition which comprises (a) a sol comprising at least one of nanoparticles, polycondensates and precursors thereof as a binder and (b) one or more solid pore formers giving rise to the additional pores, and wherein the insulation material is present as a part of a refrigerator, an oven, laboratory equipment, an article used in metallurgy or glass production, or a combination of insulation and fire protection, or is present as an encapsulant of a heat-sensitive electronic device or a cable.

122. (new) The insulation material of claim 121, wherein the insulation material has a softening point above 1200°C.

123. (new) The insulation material of claim 122, wherein the matrix comprises at least one of mullite and zirconium silicate.